

# COMMUNICATIONS TECHNIQUES AND THE SCIENTIST

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(Write word SEX on the Board)

Now that I have your attention, let me tell you why I think I am here. Perhaps the reason for having me present my paper first has something to do with Superintendent Barbee's notice of April 10 to all participants of this Science Conference. In it, he appealed to us to transmit our research into easily understood language so that our papers can be enjoyed by the highly mixed group of persons here today.

I consider myself a layman in the midst of scientists, so let me express some of my concerns. Most of you will be using what you think is the easiest form of public communications--the lecture. Actually, although it is the fastest and easiest form to use, it is the most difficult one to transmit messages with. Many lay people shudder at the thought of attending a Science Conference because they will not understand what is going on. But if the scientist needs public support for his research projects, he must somehow be able to arouse the interest of these people and help them to understand. A good communicator always looks at his presentation with this key thought: "How can I help my listeners to better understand what I am saying?"

The scientist often uses scientific names of plants, birds, and animals without giving the common name. I suggest writing it out: Colocasia esculenta--Taro! (Write scientific name on flip chart). Then, use the word "taro" for the rest of the presentation. One of the dangers that any group of people can fall into is the "in-house language." Anyone who communicates with the public needs to be aware of this. For example, (write on board) I work for the NPS, DI, our central office is WASO, and it establishes policies that are interpreted and comes to CIRE through WRO and HISD. Permit me to explain those terms. NPS is National Park Service, DI is Department of the Interior, WASO is the Washington, D. C., Office, CIRE is City of Refuge National Historical Park, WRO is Western Regional Office, HISD is Hawaii State Director's office.

Permit me to present another example of "in-house talk." Some years ago, I worked at Saratoga National Historical Park, a Revolutionary War Battlefield, in upstate New York. We sold a booklet about the battle there. One day, I noticed some visitors looking at the booklet and chuckling among themselves. I found out why! For those of you who are not familiar with the Battle

of Saratoga, it occurred in the fall of 1777. The American army was commanded by General Horatio Gates and the British army by General John Burgoyne. The passage in question in the booklet was describing the advance of Burgoyne's army toward the American position. It said, "Burgoyne's right and left flanks lay in the woods, but his front was open." We quickly revised that passage, of course!

In good communications we must SIMPLIFY (write on board)! But this does not mean reducing your presentation to a childish one. Perhaps the scientist needs to look at things in the following ways. He needs to be bilingual and at the same time have a good understanding of objectives, human relations, and the techniques of presentations--both verbal and non-verbal.

Let us look at each of these items separately. Be BILINGUAL (write on board)--like knowing a second language. Learn the language of the communicator, e.g., use the active voice--"I went to the woods" instead of "I had gone to the woods," "We decided" instead of "It had been decided by us." Concentrate on short sentences instead of those long ones with 40, 50, or more words. Your listener will find it easier to follow your presentation, instead of having to follow you through all of the semicolons, commas, adjectives, and adverbs, until you finally get to your point.

Use words that touch your listener's emotions so that he will become involved in what you are saying. For example, it may be better to say "stink" instead of "odoriferous," or "home" instead of "house," and "killed" instead of "dispatched." Graphic words are better in public communications, but not to the point of nausea.

One may say, "But there is no simple word for that flower or that animal." My reaction to that is, "Use the word, but explain it. Write it on the board!" (Point to Colocasia esculenta written on flip chart). Speaking of words, a speaker should avoid profanity or delving into the gory as a shock treatment for they tend to turn off a good part of his audience, and cause them to become negative toward him and what he is saying.

In speaking, leave out as many "I's" as possible, like "I did this" and "I did that." When you do even little things like this, you are "removing the static so that your listeners can hear the music."

In preparing a speech, decide your objective for giving it, even before you start your outline. For example, in preparing for this paper, "Communications Techniques and the Scientist," the first thing I did was to decide that my objective would be change. I would try to change your thinking so that you would think of your listeners, and try to help them to better understand what you are saying, instead of telling your listeners of the great things you have accomplished, in language they cannot understand.

In a ten-minute paper like today's, a clear objective is needed because you do not have much time to reach one. Choice of words and thoughts also become important. As the presentations are made today and in the following two days, you will notice that some of the ten-minute papers will seem short and others will seem long. That will be because of the way they are written and the way they are presented. Remember that there is not a boring subject in the world. It is all in how you tell it!

To make a good speech, it is necessary to understand human relations. Sensitivity to the listeners' feelings is important. Remember that without the listeners, there is no need for a speaker! Try to relate what you are saying to your listeners' experience as much as possible. Do not present the same paper you presented last night at the dinner meeting of botanists, to a luncheon meeting of the local Lions Club today. Too many times this happens because we are not interested enough in having the listeners understand what we are saying, but are interested only in having our names in the newspaper that says we made a speech somewhere.

Now, let us review a few of the things any speaker should be aware of, and look at some new things. A person who is going to present a paper or give a talk on a particular subject must be willing to pay the price of preparation. He must have an objective in mind and must use an outline. The beginner should write his talk out, re-write until he is satisfied, then practice out loud on lay persons (with graphics if he is going to use any). Then, re-write again based on their feedback.

Arrive early at the meeting place to set up your equipment, and to look at the layout of the room. It is always better to provide your own equipment, e.g., movie projector, slide projector, or tape recorder, because you are more familiar with it than with one that the facility provides.

When you come up to the stand, be ready to speak. Do not play with your papers, your glasses, etc. Take ten deep breaths to help pull yourself together, then begin.

In making your presentation, relax, be natural, and throw your voice out to the people in the last row. Eye contact with the audience is also very important. Movements help, but not distracting movements, like playing with your glasses, shifting your weight from one foot to the other, or playing with the coins in your pocket. Use gestures, but they must look natural. People say "But I can't do gestures because when I try them they feel forced." Then practice! I am doing gestures deliberately right now to show you that deliberate gestures need not appear forced.

In communicating with the public, the burden is on you, the speaker. Keep in mind that the hardest parts of a day to give a speech are: bright and early in the morning, right after lunch, and right after a dinner. You need to use all the tricks in the book to keep the audience's attention.

Communications is serious business. If we are not willing to pay the price of preparation, practice, and to have the interest of our listeners in mind, we are in serious trouble. We need to ask ourselves, "For whom are we presenting the paper, for the listeners or for ourselves?" Remember that without the student there is no need for a teacher.